

Tests and training tools

for sport psychology

computerized

Vienna Test System

Biofeedback 2000 *x-pert*



catalog



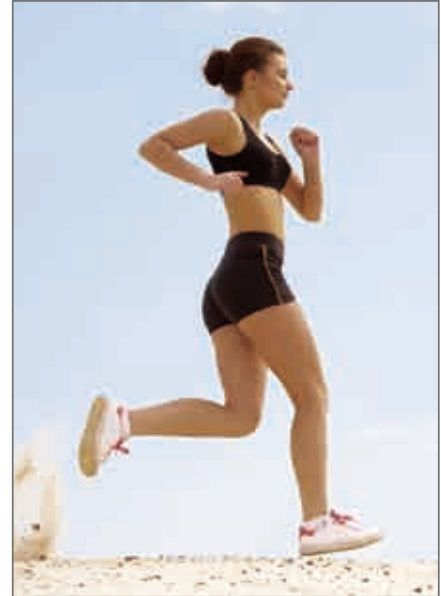
Psychological diagnostics in sport

In competitive sports it is often mental factors that spell the difference between victory and defeat. The use of carefully selected psychological tests can quickly identify the strengths and weaknesses of an athlete's personality and performance. Intervention can then be precisely targeted, enabling full potential to be reached.

Sport psychology tests offer a number of benefits:

- They provide information on cognitive ability.
- They highlight personality-related strengths and weaknesses.
- They provide a basis for tailor-made intervention and enable the success of intervention to be monitored.

In **youth development work** tests help to identify talent and assess aptitude.



Vienna Test System

With the Vienna Test System (VTS) your sport psychology assessments can be carried out objectively, precisely and in a standardized manner.

The VTS consists of the software and individual tests. Special keyboards and accessories can be added for use in particular situations.

Basic software



The powerful **basic software** enables you to administer tests and manage data. The user interface is clearly laid out and easy to use. A wide range of additional functions make your work easier.

With the basic software you can

- create test batteries (fixed sequences of tests)
- change the test language with a click of the mouse
- immediately view the results of a test

Market leader in computerized psychological assessment - worldwide!

Tests

We offer **more than 30 tests** for the Vienna Test System, in the following areas:

Personality

e.g. achievement motivation, frustration tolerance, ambition, stress tolerance, self-confidence, etc.

Ability

e.g. dexterity, anticipation ability, spatial orientation, perception speed, reaction time, peripheral perception, etc.



Tests can be used singly or combined into **individual test batteries** designed to suit your specific needs.

The tests of the Vienna Test System are available in **multiple languages**, reflecting its international orientation. The VTS basic software is available in twelve different languages while individual tests are produced in up to twenty languages.

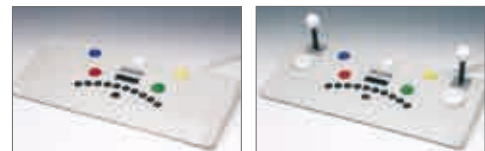


Input devices

In addition to the computer keyboard and mouse, our special keyboards and input devices can also be used. These special devices enable reliable measurement of important aspects of performance that cannot be measured using the mouse or keyboard.

Response Panels

The two available response panels can be used in many different situations.



MLS Work Panel

The MLS Work Panel is used to test fine motor skills. It measures both dynamic and static dimensions of finger/hand/arm movement.



Peripheral Perception

The Peripheral Perception device enables you to test an athlete's ability to perceive and process peripheral stimuli.



The Vienna Test System in sport

If an athlete is not performing as well as expected, mental weaknesses may be the cause. The use of carefully selected psychological tests can quickly reveal where the problem lies.

An example from football:

In several successive games the midfielder player has passed the ball to the right winger much less often than to the left winger, even though the right winger was often unmarked. There are many possible reasons for this.

At a technical level, it is possible that the player is unable to play a proper pass to the right. On the tactical side he may not be reading the defence correctly.

Alternatively, there are various ways in which the player's perceptual and mental abilities may be affected. For example:

- The player may have limited peripheral perception on his right-hand side.
- The player's anticipation ability may be impaired. The right winger runs at a speed faster than the midfielder player can accurately judge.
- The player's memory span is limited. He fails to remember that there is also a winger on the right.
- Personal differences are affecting play. The midfielder player is intentionally ignoring the right winger.



German Football League (DFB)

An example from tennis:

A young player plays extremely well on sand courts but she is unable to achieve similar results on hard courts. Here again, physical or technical/tactical problems are a possible cause. However, cognitive aspects may also be relevant. It should be borne in mind that the most significant difference between sand and hard courts is the speed of play. The surface of the hard court makes the ball travel much faster.

In this particular case the problem may arise because:

- The player's overall reaction ability is too slow for the hard court. This means that the balls arrive at a speed that is too fast for her to react to.
- The player's anticipation ability may be impaired. She is unable to make accurate judgements about balls that are travelling straight and fast (in comparison with the higher, slower balls on the sand court).
- Her visual perception is impaired. The fast, dynamic exchange of balls over-taxes her perceptual ability.
- Her personality profile may more closely resemble that of a sand-court player: patient, defensive, error-avoidant, tending to be passive and "wait and see". An appropriate profile for a hard-court player would be rather more aggressive, active and risk-embracing.

In both cases use of a purpose-made test battery will rapidly identify whether the player has cognitive difficulties.

Other examples show how tests can be used to assess aptitude for a particular type of sport.

In this situation, the first step is to draw up a (sport) psychological requirements profile for the type of sport in question. This forms the basis for compiling a test battery.

Example - Tennis:

Tennis is an individual sport from the category of ball sports and games. For the player it involves great physical stress - a high level of fitness is therefore required. In addition, it is a fast sport with short playing actions (30 seconds max. on average) and structured pauses. A game can last for several hours.

Sport psychological requirements

- Solid basic attention
- Anticipation ability
- Visual perception
- Simple reaction ability
- Choice reaction ability
- Fine motor skills
- Memory
- Making the right decision

Test

- DAUF or SIGNAL
- ZBA
- LVT
- RT
- DT
- SMK or MLS
- VISGED
- STROOP

Personality requirements

- Achievement motivation
- Frustration tolerance
- Self-confidence
- Ambition
- Readiness to take risks

Test

- AHA
- AHA
- EPP6
- EPP6
- RISIKO



This can be compared with a more unusual type of sport such as high diving or cliff diving:

Here again, these are individual sports. They require a high level of body awareness, excellent spatial orientation and great concentration.

Sport psychological requirements

- Solid basic attention
- Anticipation ability
- Visual perception
- Fine motor skills
- Spatial orientation
- Wide field of vision

Test

- DAUF or SIGNAL
- ZBA
- LVT
- SMK or MLS
- MR
- PP

Personality requirements

- Achievement motivation
- Frustration tolerance
- Self-confidence
- Ambition

Test

- AHA
- AHA
- EPP6
- EPP6

Tests

Intelligence tests

We offer a wide range of tests which enable you to measure different aspects of intelligence.

**Special ability tests**

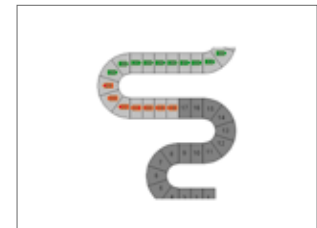
These tests provide a reliable measurement of specific sport-related skills.

Tests are available for concentration, speed of perception, anticipation ability, motor skills and many other aspects of performance.

**Personality tests**

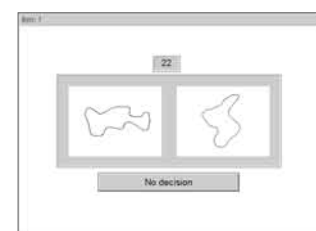
These enable you to gather information on many personality features that are relevant to sport.

They provide information on characteristics such as the ability to handle stress, frustration tolerance and self-confidence.

**Objective personality tests**

In traditional personality tests respondents assess themselves. In objective personality tests, by contrast, the results are based on the respondent's behaviour while working items similar to those used in ability tests. It is virtually impossible to falsify such a test.

We offer objective personality tests for measuring characteristics such as achievement motivation and readiness to take risks.



We shall be happy to help you select the tests that are best suited to your needs.

Detailed information on the tests can be found on our website www.schuhfried.at and in the full Vienna Test System catalogue.

Intelligence test batteries

INSBAT Intelligence-Structure Battery

Special intelligence tests

A3DW Adaptive Spatial Ability Test
 AMT Adaptive Matrices Test
 MR Mental Rotation
 VISGED Visual Memory Test

Special ability tests

ZHAND Two-Hand Coordination
 B19 Double Labyrinth Test
 COG Cognitrone
 CORSI Corsi Block-Tapping Test
 DAUF Sustained Attention
 DT Determination Test
 GESTA Gestalt Perception Test
 LVT Visual Pursuit Test
 MLS Motor Performance Series
 PERSEV Perseveration Test
 PP Peripheral Perception
 RT Reaction Test
 SIGNAL Signal Detection
 SIMKAP Simultaneous Capacity/Multi-Tasking
 SMK Sensomotor Coordination
 STROOP Stroop Interference Test
 VIGIL Vigilance
 ZBA Time-Movement Anticipation



Photo: Deutsche Post Speed Academy

Personality structure inventories

4DPI 4-Dimensional Personality Inventorye
 EPP6 Eysenck Personality Profiler V6

Special personality tests

DSI Differential Stress Inventory

Objective personality tests

AHA Attitudes to Work
 OLMT Objective Achievement Motivation-Test
 RISIKO Risk Choice

Detailed information on the tests can be found on our website www.schuhfried.at and in the full Vienna Test System catalogue.

Presentation of results

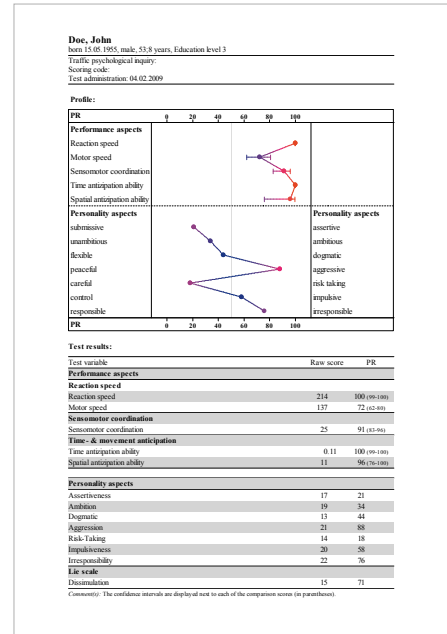
Evaluation

The evaluation presents the test battery results in a table and as an easily read profile:

The **table** lists the results and relates them to the scores of a comparison group.

The **coloured profile diagram** enables you to take in this information at a glance.

For more precise information you can of course also print out the results of an individual test. These results contain all the test's main and subsidiary variables and a number of additional sources of information such as test protocols, charts showing how the candidate progressed through the test, speed/accuracy diagrams and hexagon charts.

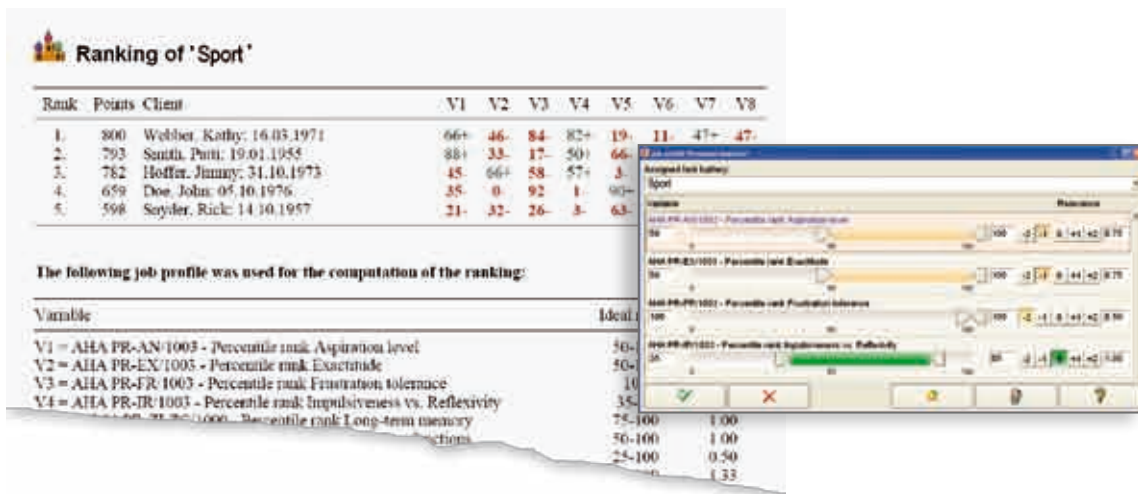


Ranking

The additional ranking module shows you which athletes have the best results.

You first define a requirements profile. This is done by selecting the skills and personality traits that are relevant to the issue under consideration. You then define the desired level of these traits (target profile) and weight their relevance.

If required, additional criteria such as medical values can also be included and weighted.



Biofeedback in sport

Through biofeedback athletes learn how to consciously control physical functions such as respiration and muscle tension. This is of help in situations such as:

- achieving an optimum state of arousal during a competition
- relaxation
- support in post-injury rehabilitation
- reducing competition anxiety
- improving technique

Biofeedback 2000 *x-pert*

Biofeedback 2000 *x-pert* is a computerized training system that measures physiological functions and displays them visually or acoustically in real time. Trainees become aware of changes in their body and learn how to induce them deliberately.

In contrast to other systems, Biofeedback 2000 *x-pert* transmits the readings cordlessly to the computer.

This **cordless transmission** not only makes the system simpler to use - it also means that readings can be taken while the athlete is moving.

Biofeedback 2000 *x-pert* consists of software and hardware components that can be individually combined:



The **BFB software package** enables you to administer training programs and manage client data. It contains several basic training programs.

Special training programs can be added if necessary.



During the training session, highly sensitive **sensors** record signals from the surface of the skin. These signals are processed by the **radio modules** and transmitted to the computer.

The following radio modules are available:

- MULTI:** Skin conductance
Pulse
Temperature
Motility
- RESP:** Respiration
- EMG:** Muscle tension
- EEG:** Electrical brain activity



Fields of application

■ **Assessing the individual's psychophysiological reaction and behaviour pattern**

Using the special "Tolerance Test" training program or by linking to the Vienna Test System (data is synchronized using a marker cable), the psychophysiological reaction components are measured in a situation of realistic competitive stress. These components provide the basis for individual biofeedback training.

■ **Reducing competition anxiety**

Pictures or video sequences can be used to transport the athlete into particular anxiety-inducing competitive situations, so that systematic desensitization can be applied. By using relaxation techniques and recording relevant parameters (pulse, respiration, skin conductance, muscle tension) the anxiety can be reduced and the response to the anxiety-inducing situation improved. An improvement in competitive performance is the logical consequence.

■ **Regulation of arousal (activation)**

Every athlete has an "optimal functioning zone" - a particular level of tension or arousal that facilitates peak performance. Many people find that they operate in this zone during training, but they fail to do so in a competition, when the release of additional hormones may cause over-arousal or excessive tension and thus have a detrimental effect on performance. Biofeedback enables athletes to influence their level of activation.

■ **Optimising recovery**

Biofeedback 2000^{x-pert} supports active and passive regeneration measures. Athletes learn to relax their muscles quicker and better, and to switch off mentally. This increases the impact of recovery measures. It enables athletes to train more intensively; the desired effects (performance improvements) are achieved more quickly.

Many athletes have difficulties with body awareness when they start to practice relaxation techniques. Using biofeedback (in particular for muscle tension, respiration and skin conductance) promotes the learning of skills such as progressive muscle relaxation (Jacobsen PRM) and demonstrates the effect of the techniques being practised.

Other athletes frequently have difficulty sleeping as a result of their training schedule or pre-competition stress. Biofeedback can help them to relax (muscle tension, respiration, pulse) and to "switch off" (EEG).



- **Supporting post-injury rehabilitation**

Relaxation training is also useful in this situation. At the same time the use of biofeedback helps athletes to regain control of their musculature, to direct their use of energy appropriately or to develop equal muscle tension on both sides of his body. Biofeedback can also help to reduce any fear of repeated injury.

- **Fine-tuning technique**

Inappropriate activation almost always leads directly or indirectly to a decline in performance, because the athlete feels physically unwell. With biofeedback training involving the parameters of pulse, respiration, muscle tension and skin conductance the athlete learns to notice inappropriate tension and inefficient movements and to alter them in the required direction.

In the shooting disciplines (pistol shooting, archery) the correct breathing technique is crucial to good performance - participants need to breathe calmly and regularly, then hold their breath, fire and breathe out. The most common mistake is to breathe in after firing, which leads to shooting wide.

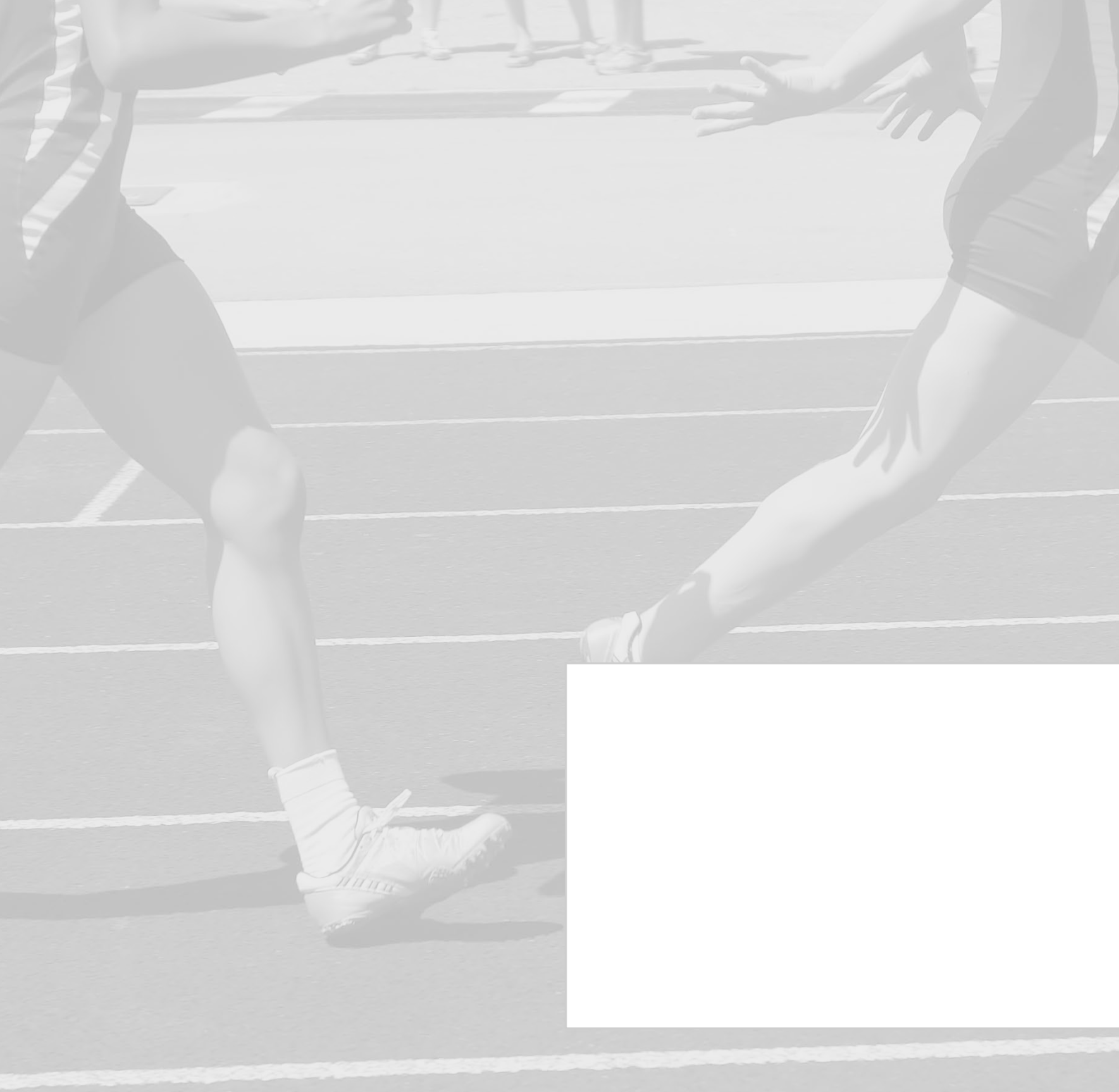
In sports in which an item of equipment is held, a cramped grip can be a cause of faulty and inappropriate technique. In this situation biofeedback training of the EMG parameter, during which the equipment is held in the hand and the sporting movement is visualized, can help to improve technique.

- **As “early warning system”**

Regular biofeedback sessions help to highlight the relationship between strain and recovery. If the strain is too high and the recovery inadequate, the parameters will reveal changes that are indicative of overtraining. These include higher resting pulse, lower oxygen uptake, increased muscle tension, changes in the respiration curve and generally reduced ability to relax.



For a detailed description of Biofeedback 2000 *x-pert* request our free catalogue or visit our website www.schuhfried.at



Market leader in computerised psychological assessment - WORLDWIDE -



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■ **Qualität durch Kompetenz**

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